

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM STATEMENT OF INVESTMENT POLICY

FOR DERIVATIVES - EXTERNAL MONEY MANAGERS

~~October 12, 2007~~ November 13, 2007

This Policy is effective immediately upon adoption and supersedes all previous Derivatives - External Money Managers policies, ~~pertaining to the use of investment derivatives by external money Managers.~~

I. PURPOSE

The CalPERS Total Fund Statement of Investment Policy, adopted by the CalPERS Investment Committee ("Committee"), sets forth CalPERS' overarching investment purposes and objectives with respect to all its investment programs.

This document sets forth the investment policy ("~~the~~ Policy") for the permitted circumstances, parameters, and requirements for the use of Investment Derivatives by External Money Managers ("~~the~~ Program"). The design of this Policy ensures that investors, managers, Consultants, or other participants selected by the California Public Employees' Retirement System ("CalPERSthe System") take prudent and careful action while managing the Program. Additionally, use of this Policy ~~provides assurance that there is~~ sufficient flexibility in managing~~controlling~~ investment risks and returns associated with the use of derivatives instruments.

II. STRATEGIC OBJECTIVE

Facilitating risk management while managing the cost of investing in publicly-traded stocks and bonds is the strategic objective of this Policy. The growth of derivatives instruments worldwide facilitates the investment process. For the purposes of this document a "derivative-instrument" is broadly defined as an a financial instrument whose value, usefulness and marketability, is derived from or linked to the value of an underlying security, commodity, or index that represents either direct ownership of an asset or the direct obligation of an issuer, otherwise known as the cash market instrument. ~~instrument vehicle that derives its value, usefulness, and marketability from an underlying instrument obligation which represents direct ownership of an asset or a direct obligation of an issuer (e.g. i.e., a "spot" or cash market instrument).~~

CalPERS ~~The System~~ retains external domestic and international money management firms ("Managers") for the express purpose of investing in publicly-traded stocks and bonds. CalPERS~~The System~~ is a long-term investor; therefore, Managers shall manage assets for the generation of long-term gains from

investments, principally in cash market positions, stocks, and bonds. However, as a significant global institutional investor, the CalPERS System is positioned for taking advantage of derivatives instruments to ensure the overall investment performance objective is achieved.

~~as specified~~

III. RESPONSIBILITIES

A. ~~The System's Investment Committee ("Investment Committee") is responsible for approving and amending the Policy and delegating responsibility for administering the Policy. In addition, the Investment Committee is responsible for approving Statements of Investment Policy for each asset class or program that incorporates the use of derivatives.~~

AB. CalPERS' Investment Staff ("Staff") is responsible for the following:

1. ~~The RSystem's Investment Staff ("the Staff") shall reviewing written policies and procedures of the Managers concerning derivative use. The Staff shall monitor reports from the Managers and the System's Custodian at least quarterly to ensure derivative use is in compliance with this Policy. The Staff shall monitor the use of derivatives by Managers to interpret if any violation has occurred;~~
2. ~~M~~The Staff and General Pension Consultant shall monitoring the investment performance results of the Managers to ensure that any derivative use does not have a long-term deleterious effect on the Portfolio; and
3. ~~3.~~Monitoring the implementation of, and compliance with, the Policy. Staff shall monitor reports from the Managers and the CalPERS' Custodian at least quarterly to ensure derivative use is in compliance with this Policy. Staff shall report concerns, problems, material changes, and all violations of Guidelines and Policies immediately and in writing to the Committee. These reports shall include explanations of the violations and appropriate recommendations for corrective action.-

B. The General Pension Consultant is responsible for:

Monitoring, evaluating, and reporting periodically to the Committee on the performance of the Managers' portfolios to ensure that any derivative use does not have a long-term deleterious effect on the Portfolio.

C. The External Manager ("Manager") ~~Managers~~ is responsible for all aspects

of portfolio management as set forth in each Manager's contract with CalPERS and shall fulfill the following duties:

~~received investment discretion under their contracts with the System subject to their investment management guidelines. The System delegates to Managers~~

1. The execution of derivatives transactions under this Policy, subject to Section V.B.6.F. of this document. If the Managers does not comply with this Policy, CalPERS the System prohibits its their use of derivatives. Nothing in this Policy supersedes the Managers' legal obligations to CalPERS the System contained in its their investment management contracts;

2. Cooperate fully with CalPERS' Staff, Custodian, and General Pension Consultant concerning requests for information; and

3. Comply with all pertinent CalPERS policies.-

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

Not applicable.

V. INVESTMENT APPROACHES AND PARAMETERS

A. Derivative Approaches Strategies **DERIVATIVE STRATEGIES**

~~Basic strategies can be achieved through the use of derivatives. Of these approaches strategies described below, only substitution, risk control and arbitrage are permitted; speculation is prohibited.~~

1. A. Permitted:

a. 1. Substitution: When the characteristics of the derivative sufficiently parallel those of the cash market instrument, the derivative may be substituted on a short-term basis for the cash market instrument, or on a longer-term basis to avoid withholding taxes. This approach strategy is particularly useful when investing cash flow or liquidating investments, as the derivative can be used to manage more precisely the market entry and exit points.

b. 2. Risk Control: When characteristics of the derivative instrument sufficiently parallel those of the cash market instrument, an opposite position in the derivative can be taken from the cash market instrument to alter the exposure to or the risk (volatility) of the cash instrument. This

approach strategy is useful to manage risk without having to sell the cash instrument. Sometimes referred to as "hedging", the use of derivatives in this context means that there is at least a 95% correlation in price movement between the cash market or instrument and derivative instrument over a rolling three-year period. For currency overlay Managers, the 95% correlation refers to the correlation between the proxy basket of currencies and the underlying portfolio.

c. 3. Arbitrage: The simultaneous purchase and sale of two instruments for the purpose of capturing a pricing disparity between them. This usually takes place due to different markets, exchanges or instruments. This is only permissible when expressly stated by individual program investment policy and Manager guidelines.

2. B. Prohibited:

4. Speculation: An assumption of risk in anticipation of a gain but recognizing a higher than average possibility of loss. The goal of every program should be the attainment of the best risk adjusted returns for the portfolio.

B. VI. General Requirements and Restrictions **GENERAL REQUIREMENTS AND RESTRICTIONS**

1. A. Each external Manager shall prepare, maintain, and periodically review a written derivatives policy that describes the following information:

1.a. Specifies the philosophy and prescribed use of derivatives for client accounts;

2.b. Establishes limits to derivatives exposure within a client account expressed in terms of percentage of notional amount of derivatives exposure as a percent of market value;

3.c. Establishes a standard of care concerning the following areas:

(1) a. Back office and systems capabilities;

(2) b. Internal audit and review of derivatives use;

(3) e.—Separation of responsibilities;

(4) d.—Senior management supervision;

(5) e.—The required expertise of those permitted to engage in the use of derivatives; and

(6) f.—The authority of those permitted to use derivatives.

d. 4.—Establishes and describes the following criteria:

(1) a.—The accounting and valuation procedures in the use of derivatives;

(2) b.—The [counter-party](#) exposure credit limit policy;

(3) c.—The value-at-risk analysis regarding the impact to a client's portfolio caused by the use of derivatives;

(4) d.—Reconciliation procedures with the client's master custodian bank;

(5) e.—Reporting requirements to clients; and

(6) f.—The frequency of the policy review and the names of individuals conducting the review.

e. 5.—Establishes and describes the monitoring procedures for the following issues:

(1) a.—Policy implementation; and

(2) b.—Risk exposures

6.f. Describes the compensation of traders, portfolio mManagers, and other individuals involved in the use of derivatives to avoid inappropriate, fraudulent, or non-compliant behavior; and

7.g. Specifies the periodic review of the written derivatives policy.

2. B.—Managers shall [mark-to-market](#) derivative positions daily.

C.3. Managers shall use a daily pricing source for valuing derivative positions.

D.4. Managers shall reconcile daily cash and [margin](#) positions with CalPERS' master custodian bank.

E.5. Any derivative transaction, which results in the [leveraging](#) of the portfolio, is prohibited, unless expressly permitted by individual program investment policy and Manager guidelines.

F.6. Only the Managers' investment guidelines can confer authorization to use derivatives, which is included as part of its contract with CalPERS ~~the System~~. If derivative use is authorized, then this Policy applies.

G.7. Any derivative transaction, or any action concerning derivatives not expressly permitted in this Policy, is prohibited unless singularly approved by CalPERS ~~the System's~~ Chief Investment Officer or his or her designee. Managers shall request approval for any policy exception from the Staff, who will seek the appropriate determination.

8. H. Each Manager shall make available to CalPERS ~~the System's~~ Chief Investment Officer or his or her designee, copies of any policy regarding derivatives it maintains which is applicable to the management of CalPERS ~~the System's~~ account, including those policies required by this Policy.

9. I. Managers shall perform a cost/benefit analysis concerning a derivatives transaction before it is undertaken and shall make that analysis available to CalPERS ~~the System's~~ Staff upon request. Forward currency transactions are exempt from this requirement.

10. J. While the use of [options](#) is permitted as expressed, there may be times when simultaneous, but opposing options positions may be taken by a Manager. An example of this occurs when a [call option](#) is written so that the [premium](#) income received is then used to finance the purchase of a [put option](#). When the Manager explicitly demonstrates in writing that these simultaneous transactions result in a risk controlling or cost controlling impact to CalPERS ~~the System's~~ portfolio, then they will be permitted. However, these transactions will be closely monitored to ensure that the Manager is not engaging in excessive derivative transactions, which are in conflict with CalPERS ~~the System's~~ long-term investment objectives.

C. VII. Types of Risks **TYPES OF RISKS**

- A.1. **Market Risk** - Managers shall have systems, procedures, and, if necessary, models to assess the market-related risks to the price behavior of the derivative instruments held in the portfolio, and the impact of market-related risk on the value of the portfolio managed for CalPERS~~the System~~.
2. ~~B.~~ **Credit Risk** - Managers shall have available for inspection credit policies which are applicable to their derivative use. Credit risk analysis must assess the current replacement cost of the transaction of a counter-party default and estimate the replacement cost if the counter-party were to default at some future point during the derivatives exposure period.
3. ~~C.~~ **Liquidity Risk** - To minimize liquidity risk, the potential derivatives transaction shall be reviewed and supported by at least three market makers.
4. ~~D.~~ **Cash Flow Risk** - To minimize the cash flow requirements of CalPERS~~the System~~, especially in the currency overlay program, Managers shall make use of master netting agreements and have systems in place to monitor when unrealized losses exceed unrealized gains in connection with derivatives transactions.
- E.5. **Basis Risk** - To minimize basis risk, the price movement correlation of the derivative and the underlying cash market or instrument which represents the deliverable instrument must be at least 95% over a rolling three-year period. For currency overlay Managers, the 95% correlation refers to the correlation between the proxy basket of currencies and the underlying portfolio.
- F.6. **Legal Risk** - To minimize legal risk, Managers are prohibited from engaging in derivative transactions where such transactions are unenforceable under the laws of the governing jurisdiction. Managers are required to maintain sufficient documentation to enable enforceability of a claim arising from a derivatives transaction and may only engage in derivative transactions when there exists sufficient authority or capacity to do so. Where reasonable, Managers at their own expense shall engage appropriate legal counsel expert in the laws of the governing jurisdiction to protect the interests of CalPERS~~the System~~ in the use of derivatives.
7. ~~G.~~ **Settlement Risk** - To minimize settlement risk, master payment netting agreements shall be used where feasible and enforceable for payments in the same currency. Cross currency settlement risk shall be minimized by avoiding the use of spot and short-dated forward trades simultaneously.

8. H. **Operational Risk** - To minimize operational risk, Managers shall have sufficient internal controls to minimize derivative losses due to errors or omissions. These internal controls shall include the following:

1.a. Oversight of informed and involved senior management.

2.b. Documentation of policies and procedures, listing approved activities and establishing limits and exceptions, credit controls and management reports.

3.c. An independent risk management function, separate from the portfolio management function, or appropriate checks and balances to ensure proper risk management.

4.d. Independent internal and external audits to verify adherence to the firm's policies and procedures.

5.e. Back office support with sufficient technology and systems for handling confirmations, documentation, payment, margin levels and accounting and reporting.

6.f. A system of independent checks and balances throughout the derivative transaction process from initiation of trade to final settlement.

D. VIII. Counter-Party Requirements **COUNTER-PARTY REQUIREMENTS**

A.-1. Each Manager shall prepare, maintain, and periodically review a counter-party credit policy for non-exchange-traded derivatives, meeting the following standards:

1.a. Outlines acceptable credit standards a counter-party must meet.

2.b. Outlines how a counter-party will be evaluated against those standards.

3.c. Specifies the individuals within the firm responsible for evaluating counter-party creditworthiness.

4.d. Specifies a list of approved counter-parties with credit exposure limits.

5.e. Outlines the frequency of review of counter-parties for the

approved list.

6.f. Outlines procedures for enforcing the counter-party credit policy.

7.g. Provides for the independent audit of credit policy procedures to ensure compliance.

8.h. Requires the separation of trading (dealing) activity responsibilities from credit approval and review responsibilities and provides for a separate risk management function within the firm, or an appropriate sets of checks and balances to ensure proper risk management.

9.i. Outlines restrictions against the use of counter-parties requiring credit enhancement to establish acceptable creditworthiness.

10.j. Outlines appropriate internal reporting and control requirements for the management of counter-party risk exposure.

11.k. Provides for the contracting entity's chief executive oversight.

l. Specifies periodic review of the written counter-party credit policy.

2. B. Counter-party creditworthiness shall equal an "investment grade" of "A3" as defined by Moody's Investor Service or "A-" by Standard & Poor's. The use of counter-parties holding a split rating with one of the ratings below A3/A- is prohibited. Managers shall notify CalPERS ~~the System~~ if a counter-party is downgraded below A3/A- while an instrument held in the portfolio is outstanding with that counter-party. The use of unrated counter-parties is prohibited.

3. C. Non-exchange traded derivatives or individual counter-party exposure, including ~~the CalPERS' System's~~ Custodian, are limited to 33% of the notional amount of the derivative exposure of the portfolio being managed for CalPERS ~~the System~~. An exception is allowed if total derivative exposure in the portfolio is less than \$100 million. Where netting agreements approved by the CalPERS' ~~System's~~ Chief Investment Officer or his or her authorized designee are in place with the counter-party, only the net amount applies toward the \$100 million limit.

4. ~~D.~~—Any entity acting as a counter-party shall be regulated in either the United States or the United Kingdom.

~~E.~~ 5. The Manager shall, where applicable and enforceable, use [master agreements](#) permitting the [netting](#) of counter-party exposures to minimize credit risk.

6. ~~F.~~—~~CalPERS' The System's~~ Chief Investment Officer or his or her designee may request an adjustment of the counter-party exposure, as ~~CalPERS~~ ~~the System~~ manages its overall counter-party exposure.

7. ~~G.~~—Managers are prohibited from “name washing” where credit guarantees extend to another party or parties, regardless of which party holds a higher rating.

~~E. IX. Permitted and Restricted Instruments~~ **PERMITTED AND RESTRICTED INSTRUMENTS**

The derivative ~~instrument~~ market is evolving and new ~~instruments~~ [derivatives](#) are created constantly. Rather than list each derivative, classes of derivatives will be described below, and **may only be used by Managers with guideline authority to do so.** A list of specifically approved derivative instruments shall be contained in the Staff operations manual.

1. ~~A.~~—**Futures Contracts** - Stock index futures, bond futures and currency futures contracts which are [Commodities and Futures Trading Commission \(CFTC\)](#)-approved are permitted when the Manager has permission to invest in the underlying or deliverable cash market instrument.

2. ~~B.~~—**Options** - Stock index options, options on stocks and bonds, options on futures and currency options are permitted for use by Managers who have permission to invest in the underlying or deliverable cash market instrument or whose mandate is to overlay a designated portfolio of deliverable cash market instruments.

3. ~~C.~~—**Currency Forward Contracts** - Currency forward contracts are permitted for use by Managers who have permission to invest in the underlying or deliverable cash market instrument or whose mandate is to overlay a designated portfolio of deliverable cash market instruments. FX transactions may occur between foreign currencies (cross currencies) when made in anticipation of future sales or purchases of securities or when consistent with the Manager's currency management guidelines.

4. ~~D.~~ Swaps - Swaps which provide for the receipt of the rate of return of the permitted cash market instrument are allowed.

5. ~~E.~~ Structured Notes - Structured notes (such as, including, but not limited to, inverse floaters) and mortgages are not considered derivatives for the purposes of this Policy, and are prohibited, unless expressly permitted by the Manager's investment guidelines included in its contract with CalPERS ~~the System~~.

6. ~~F.~~ Warrants - Purchasing warrants separately is prohibited; however, warrants are permitted when attached to securities authorized for investment.

7. ~~G.~~ Credit Default Swaps - The purchase and sale of single issuer and basket/index credit default swaps are permitted for use by Managers, if expressly permitted in the Manager's investment guidelines included in its contract with CalPERS ~~the System~~. High yield credit default swaps may not be used to create a net short position for a single issuer.

~~F.~~ X. ~~Listing Requirements~~ **LISTING REQUIREMENTS**

Derivatives, which are futures contracts, shall be CFTC-approved and exchange-traded. Options may either be exchange-traded or traded over-the-counter (OTC). If traded over-the-counter, then Manager's shall strictly adhere to the counter-party guidelines.

~~G.~~ XI. ~~Criteria for New Derivatives~~ **CRITERIA FOR NEW DERIVATIVES**

Use of any new derivative shall only occur upon written authorization of CalPERS ~~the System~~'s Chief Investment Officer or his or her authorized designee. New derivatives instruments subject the investor to three types of risk:

1. ~~A.~~ Objective pricing risk;

2. ~~B.~~ Legal risk; and

3. ~~C.~~ Liquidity risk.

~~Because most derivative instruments are traded under unregulated circumstances, a "common law" practice shall prevail.~~ Before use of a new derivative, at least three market makers shall review and support it. The three market makers shall have adequate capitalization, exemplary reputations in the marketplace, and creditworthiness equivalent to

“investment grade” of “A3” as defined by Moody’s Investor Service or “A-” by Standard & Poor’s. The benefits of three market makers include competitive pricing, a minimum number of market participants to create “commonly accepted practices and requirements” for a new derivative, and a minimum degree of liquidity to support institutional use. The derivative must be linked to a pre-existing permissible cash market or instrument, which can be used for delivery.

H. ~~XII.~~ Reporting Requirements **REPORTING REQUIREMENTS**

Managers shall prepare a monthly report for CalPERS the System outlining the following information:

A.1. The derivatives and the counter-parties used and the market value, cost-value, gain or loss, notional exposure, and amount of exposure;

B.2. A description of the strategy and expected outcome of the derivative use; and

3. ~~C.~~ The quantified impact to the portfolio.

VI. ~~XIII.~~ CALCULATIONS AND COMPUTATIONS **OPERATIONAL REQUIREMENTS**

Managers shall comply at all times with the operational requirements of the System and its Custodian. Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis as recorded by CalPERS' custodian. Managers shall comply at all times with the operational requirements of CalPERS and its Custodian.

VII. ~~XIV.~~ **GLOSSARY OF TERMS**

~~Definitions for~~ Key words used in this policy are defined located in CalPERS' the Miscellaneous Glossary of Terms which is included in the System's Master Glossary of Terms.

Approved by the Policy Subcommittee: December 6, 1996
Adopted by the Investment Committee: December 16, 1996
Revised by the Policy Subcommittee: December 10, 2004
Approved by the Investment Committee: February 14, 2005
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Approved by the Investment Committee: November 13, 2007

Arbitrage

The simultaneous purchase and sale of two instruments for the purpose of capturing a pricing disparity between them. The instruments do not need correlated price movements.

Basis Risk

The risk caused by a deviation in the price spread between two related instruments or markets.

Call Option

An instrument conveying the right, but not the obligation, to buy a deliverable instrument at a specified price.

Cash Market

The physical market for a deliverable instrument or commodity.

Commodities and Futures Trading Commission (CFTC)

An agency of the U.S. federal government that regulates the U.S. commodity futures and options markets. The CFTC is responsible for insuring market integrity and protecting market participants against manipulation, abusive trading practices, and fraud.

Counter Party

The entity which is in the opposing position to a transaction.

Custodian

A bank or other financial institution that provides custody of stock certificates and other assets of an institutional investor.

Derivative

An instrument whose value is based on the performance of an underlying financial asset, index, or other investment. Classes of derivatives include futures contracts, options, currency forward contracts, swaps, and options on futures.

Forward Contract

An instrument that allows the purchase or sale of a specific quantity of a commodity, government security, foreign currency, or other financial instrument at the current price, with delivery and settlement at a specified future date.

Futures

Exchange-traded contracts to buy or sell a standard quantity of a given instrument, at an agreed price, and date. A future differs from an option in that

both parties are obliged to abide by the transaction. Futures are traded on a range of underlying instruments including commodities, bonds, currencies, and stock indices.

Hedge (Hedging)

A strategy used to offset investment risk. A perfect hedge is one eliminating the possibility of future gain or loss.

Leverage

A condition where a portfolio's market obligation may exceed the market-value-adjusted capital commitment by the amount of borrowed capital (debt).

Margin

Collateral representing a portion of the notional amount of a transaction specified by the exchange clearing the transaction or the counter-party to the transaction.

Mark to Market

A method of determining the value of securities by applying current trading prices of similar or identical securities to the securities being valued.

Master Agreement

One agreement covering the terms, conditions, and settlement of several transactions.

Netting

The process by which a single payment obligation is derived from numerous sums owed between two parties.

Option

Contracts that give the purchaser the right, but not the obligation, to buy or sell an underlying instrument at a certain price (the exercise or strike price) on or before an agreed date (the exercise period). For this right, the purchaser pays a premium to the seller. The seller (writer) of an option has a duty to buy or sell at the strike price, should the purchaser exercise his right.

Over the Counter (OTC)

The market for securities and traded products that are not listed on the major exchanges. OTC options are options with negotiated premium, strike price, and expiration date.

Premium

The cost paid or revenue received for an option.

Put Option

An instrument conveying the right, but not the obligation to sell a deliverable instrument at a specified price.

Speculation

Assumption of risk in anticipation of gain but recognizing a higher than average possibility of loss.

Spot Market

Commodities market in which goods are sold for cash and delivered immediately.

Structured Note

An instrument representing a financial obligation created by modifying one or more standard financial obligations or instruments (i.e., a bond or mortgage) to create a risk/return profile or cash flow payment stream. This type of risk or return profile differs from the standard financial instrument from which it derives.

Swap

Private agreement between two companies to exchange cash flows in the future according to a prearranged formula.